## ZOOLOGICAL SOCIETY.

Nov. 12, 1862.—Dr. J. E. Gray, V.P., in the Chair.

The following extract from a letter addressed to the Secretary by Edward Blyth, Esq. (Corr. Memb.), dated Maulmein, May 10th, 1861, was read to the meeting:—

"I have made this day a grand discovery, which neither you nor others will believe in at the first announcement, but it is true nevertheless,—viz. that the extraordinary Rhinoceros-horn figured [*] as that of *Rhinoceros Crossii* by Gray, in your 'Proceedings,' is the well-developed anterior horn of an old male *R. sumatranus*—the common species of these provinces. My host at this place is a great sportsman, and some noble trophies of the chase hang in his verandah; but what fixed my attention was the head of *R. sumatranus*, with a development of horns which I had never imagined to occur in this species; and the resemblance of the much-curved anterior horn to that of Gray's supposed species, *R. Crossii*, struck me at once. Conversing with my host on the subject, he remarked that he took a similar head to England (where it now adorns his family hall), with the front horn at least 3 inches longer, and still more curved. A little reflection, and I felt satisfied that *R. Crossii* must sink into a synonym of *R. sumatranus*."

In a subsequent communication Mr. Blyth remarked:—

"All doubts now removed about the identity of *R. sumatranus* and *R. Crossii*. Mason states that the skin of the Tenasserim species 'is quite smooth, like a buffalo's'—meaning devoid of folds; but Col. Fytche assures me that the one he shot had the slight folds described and figured of *R. sumatranus*. The mature female horns are small, and the nasal bones comparatively narrow; I am not aware that a corresponding sexual difference occurs in any other Rhinoceros. In the Indian one-horned species the sexes are alike in size and development of horn."

The following papers were read:—

### Notice of Helogale, a New Genus of Viverridæ.

By Dr. J. E. Gray, F.R.S., V.P.Z.S., F.L.S., etc.

In making out a list of the skulls of the animals in the Museum, Mr. Edward Gerrard called my attention to a peculiarity in the skull of some of the smaller African Mangoustes. They are externally like the true *Herpestes*, but they want the smaller false premolar teeth in the upper jaw, which are always to be found in the true species of that genus. I propose to designate the group *Helogale*, which may be thus characterized:—

#### Helogale.

Cutting teeth $\frac{3-3}{3-3}$; Can. $\frac{1-1}{1-1}$; Premol. $\frac{3-3}{3-3}$; Mol. $\frac{2-2}{2-2} = 36$.

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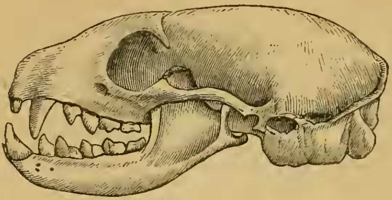
[*] See P. Z. S. 1854, p. 250.

Body slender; head oval; ears distant; toes 5—5; claws compressed, acute; soles of hind feet half bald and callous; tail hairy, tapering.

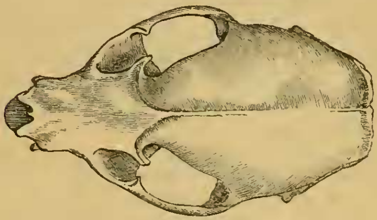
1. HELOGALE PARVULA (*Herpestes parvulus*, Sundeval).

Skull broad.

*Hab.* Natal.



Skull of *Helogale parvula* (side view).



Skull of *Helogale parvula* (upper surface.)

2. HELOGALE TÆNIONOTA (*Herpestes tænionotus*, A. Smith).

Skull elongate.

*Hab.* South Africa.

The skull differs considerably in shape from that of the species of true *Herpestes*.

## ADDITIONAL OBSERVATIONS ON THE GENUS CUSCUS.

### BY DR. JOHN EDWARD GRAY, F.R.S., V.P.Z.S., ETC.

In the 'Proceedings' for 1858, p. 100, I gave some observations on the genus *Cuscus*, with the description of a new species; and in the volume for 1860, p. 1, I described another species of the genus *.

Since that time we have received several additional specimens from Mr. Wallace, and I have also been able to examine many other examples sent home by the same excellent collector; the examination of these specimens has induced me rather to modify my views as regards the species, and has led me to observe other characters for the species which were before unknown to me.

I therefore lay before the Society these additional observations, in the hope of doing something towards settling the species of this very difficult group of animals, which are curious as being the only

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* See Annals, vol. ii. p. 67, and vol. vi. p. 65.

Marsupials that have as yet been submitted to a kind of domestication; though I have never been able to see why Kangaroos might not have been domesticated by the Australian emigrant, except from the difficulty of making them adopt new ways even in a new country.

I may observe that I believe the British Museum contains the largest and finest collection of specimens of this genus that has ever been brought together. A few years ago we considered ourselves fortunate in having two specimens; now we have thirty-three from very different localities, and I have besides these examined about half as many more.

The zoologists of the modern school are very desirous that the name of the original namer of the species should always be inserted after the specific name, to show to whom belongs the honour of having first named the species,—often a very doubtful source of congratulation or proof of scientific attainment, as for example in this genus.

Should the various coloured varieties really be proved to be good species in this genus, we shall have to adopt the names of Lesson, an author who seems only to have seen a very few specimens, and to have applied a name to each of those that he saw, without giving himself the trouble to ascertain what were the characters that separated them from the other examples of the genus; and it is frequently the case, not only with species but with genera, that the man who first gives the name to either one or the other often knows less about them, and takes less trouble to study the subject, than men who have never given a new name to either genus or species. This was specially the case with Swainson, who has given the names to many genera of shells and birds even on the slightest characters, and without the least analysis.

In my former paper I divided the *Cusci* into two sections, according to the hairyness and prominence of the ears; I will now divide them into four sections, according to the form of the skull and the number and disposition of the anterior false grinders; and thus place at the disposal of the student two means of determining the species.

Sect. I. The nose of the skull short, broad, and rounded. The anterior conical false grinders one on each side, large, and nearly filling up the short diastema. The grinders large, in an arched series, converging behind. The forehead of the skull rather swollen over the front, and depressed between the hinder part of the orbits. Ears hidden under the fur. Fur of one colour. EUCUSCUS.

1. CUSCUS (E.) URSINUS, Gray, P. Z. S. 1858, p. 103.

Temm. Monog. t. 1. f. 1, 2, 3 (adult), t. f. 1–5 (half-grown) (skull), t. 4 (skeleton).

Blackish; tail and rump dark, like back.

*Hab.* Celebes (*Temm.*).

The three skulls, of different ages, all show only a narrow linear space between the upper edges of the masseter muscles. The forehead of the youngest specimen is not so concave as that of the two older ones.

We have an adult and half-grown female from Celebes, obtained for the Leyden Museum in 1843; and a nearly adult specimen without any distinct indication of its sex—probably a female—with the pouch sewed up, from the Zoological Society, 1855.

If this should be the case, we have only female specimens of this genus; but I believe they have a male at Leyden.

2. CUSCUS (E.) BREVICAUDATUS, Gray, P. Z. S. 1858, p. 102.

Pale brown; the tail and rump of the same colour as the back.

*Hab.* Cape York (*Mr. Macgillivray*).

The skull, which is that of a very young animal, is more like that of *C. ursinus* than that of any other species in our Collection.

The canines are close to the cutting-teeth, and with a very small space between it and the first grinder. The skull is rather convex, and swollen in front over the orbits.

We have only the young specimen and its skull, on which Mr. Gould established the species. It seems very distinct from *C. ursinus*.

Sect. II. The nose of the skull rather produced, rounded. The anterior conical false grinders one on each side above, moderate-sized, near the middle of the broad diastema. The grinders in a slightly arched series. The forehead very convex, rounded over the middle of the orbit, and flat behind. The ears hairy outside, hidden in the fur. The fur more or less variegated. Tail pale or yellowish. Dorsal streak none. SPILOCUSCUS.

The skulls which we have of the animals of this section show that there are probably two distinct species. One species has grinders of a rather larger size than those of *C. ursinus*, but differing from them in being in only a slightly curved line, the three first grinders forming a series of from 10 to 10½ lines, or twelfths of an inch. In this respect the skull agrees with those figured by Temminck (Mon. Mam. t. 3. f. 1–6) as of *Phalangista maculata*. But one skin agrees with the description of the skin of *P. chrysorrhos* of that author, and its teeth with the figure of the teeth of *P. maculata*. Yet it is to be recollected that this author had only a very small number of specimens to examine, and he does not mention in his description of either species the difference in the size of the grinders, though he shows the difference in his figures.

The second species has smaller grinders, placed in the same manner as the former,—the three front grinders forming a series of from 8½ to 9 lines in length, as they are figured by Temminck (Monog. t. 1. f. 4–6) as *Phalangista chrysorrhos*.

We have two skulls with their skins belonging to this kind; and both have the spotted skins which Temminck calls *Phalangista maculata*. Under these circumstances it is difficult to adopt Temminck's name. Are we to take those of the skin or those of the skulls? Perhaps what he describes as *C. chrysorrhos* may be the proper and wild state of each species, and the spotted varieties described as *C. maculata* may be albino varieties or half-domesticated varieties of them, for the natives of some islands are said to breed them.

As I have not the power of examining the skulls of all the specimens, I have arranged those in the Museum provisionally under these two names, taking them as they designate the general colour of the fur.

### 3. CUSCUS (S.) CHRYSORRHOS.

*Cuscus maculata*, var. 1, 2, Gray, P. Z. S. 1858, p. 102.

*Phalangista maculata*, Temm. Mam. t. 2. f. 1–5 (adult), 6 (young skull).

The grinders * large, three front of from 10 to 10½ lines in length.

Fur dark grey-brown; sides and middle of the back blacker or black; face reddish; rump and tail yellowish; belly white.

Var. *albina*?

White; feet and large spots on back red-brown.

*Hab.* Ceram; south coast of New Guinea; "Moluccas" (*Temm.*).

1. An adult female of a large size from the Leyden Museum as *C. chrysorrhos*, Temm. 1859.

2, 3. An adult and a three-fourths grown female, with the sides very deep black. From Ceram; Mr. Wallace, 1859.

4. A young female specimen from the south coast of New Guinea; J. B. Jukes, 1846.

The skull of this animal shows that it belongs to the large-toothed species.

Var.? *albina*. White, reddish varied.

*C. maculata*, nos. 3–5, Gray, P. Z. S. 1858, p. 102.

5. White, with a long irregular patch on the back, and the four feet red. A female from Dufour Island, south-east coast of New Guinea; John Macgillivray, 1851; and its skull, which agrees with Temminck's figure of the skull of *C. maculatus*.

6. ? An adult male, with numerous confluent reddish spots. New Guinea; John Macgillivray, 1855.

7. ? A half-grown male, with numerous small, reddish and dark-brown spots, often confluent. Darnley Island, south coast of New Guinea; John Macgillivray, 1855.

I have not been able to examine the skull and teeth of these specimens; so they may belong to the next.

### 4. CUSCUS (S.) MACULATUS.

*Cuscus maculatus*, Lesson, Voy. Coq. t. 5.

*Cuscus maculatus*, var., nos. 3–7, Gray, P. Z. S. 1858, p. 102.

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* I give the measurement of the three first of the true grinders only, because in the young skull the hindermost grinders are not developed. I may state that the difference in the size of the grinders does not depend on the sex of the species, as there are both males and females with teeth of each size.

*Phalangista chrysorrhos*, Temm. Mon. t. 1. f. 4, 5, 6 (skull, not skin).

Grinders moderate, three front forming a series of from 8½ to 9 lines in length. Skull very convex on the front of the orbit, flat or slightly concave behind the convexity, the temporal ridges close together, united (in the adult skull) and forming a sharp ridge.

White, spotted with fulvous grey-brown or black ; forehead reddish.

*Hab.* New Guinea. Waygeroo and Aru Islands.

There are both sexes in the Museum Collection.

1. Adult male. Spots on the head and shoulders, confluent on the back and sides, small, scattered ; tail white. Waygeroo. Purchased of M. Verreaux, 1856, as *Cuscus maculatus*.

2. Adult male. White, with numerous, scattered, small spots ; tail white, slightly varied with pale reddish. Aru Island ; Mr. Wallace, 1857. This belongs to the smaller-toothed kind.

3. Adult male and female. Very similar ; yellowish white spots, numerous, smooth, intense black ; head reddish-brown ; tail white, marbled with pale reddish. Waygeroo ; Mr. Wallace, 1860.

Mr. Wallace observes that these animals are diurnal : the female he marks as having a pale hazel iris. The skull of the male shows that it also belongs to the smaller-toothed kind.

The three skulls in the Museum agree with the above description, but vary among themselves ; one of the skulls from Aru (1195 *b*) is much narrower in all its parts, and is less swollen and narrower between the orbits, than the others from the same locality, and is probably the skull of a female, as 1195 *a* is from the male specimen sent from Aru by Mr. Wallace.

The skull of the male specimen sent by Mr. Wallace from Waygeroo is similar to the male from Aru (1195 *a*), but is rather more swollen, especially between the front of the orbits.

Sect. III. The nose of the skull rather produced, rounded. The anterior conical false grinders one on each side above, moderate-sized, near the middle of the broad diastema. The forehead deeply concave, with a raised edge on each side between the orbits. Ears naked within, extended beyond the fur of the head. Fur of body and tail uniformly coloured, with a dorsal streak. STRIGOCUSCUS.

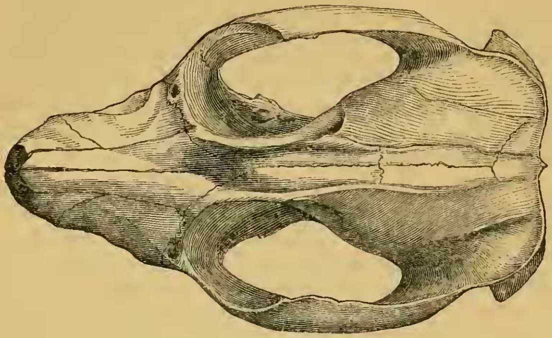
5. CUSCUS (S.) CELEBENSIS, Gray, P. Z. S. 1858, p. 105, t. 62.

*Hab.* St. Cristoval, Solomon's Group of Islands.

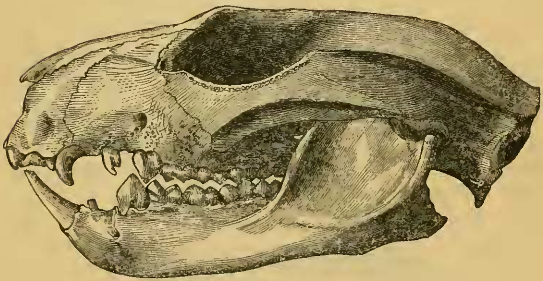
We have both sexes in the British Museum Collection, and the skulls of two others nearly adult, collected by Mr. Rayner and Mr. J. Macgillivray during the voyage of the 'Herald.' There is very little difference between the two skulls, though they are from a male and female animal.

In the description of the species in the paper above referred to, the animal is erroneously said, by a slip of the pen, to have no dorsal streak.

We have in the British Museum a young specimen of a *Cuscus* from Macassar, which is very like *C. celebensis*, but it has no visible dorsal streak: it is not in a very good condition. It may be a variety of this species, or the young of one of the other, or perhaps an undeveloped state of a new one.



Skull of *Cuscus celebensis* (upper surface).



Skull of *Cuscus celebensis* (side view).

Sect. IV. The nose of the skull rather produced, rounded. The anterior conical false grinders *two* on each side above, the anterior rather larger, the hinder very small, cylindrical; both near the other grinder, and widely separated from the canines. The forehead with a deep concavity between the orbits. Ears naked within, extended beyond the fur of the head. Fur on body and tail uniformly coloured, with a dorsal streak. Cuscus.

6. Cuscus orientalis, Gray, P. Z. S. 1858, p. 104, t. 61.

*Cuscus Quoyii*, Lesson in Quoy & Gaim. Voy. Uranie, Zool. t. 56. f. 6.

The male and female grey brown, with a distinct dorsal streak.

Var. *albina*?

*Cuscus orientalis*, Temm. & Gray.
Males pure white, without any dorsal streak.
*Hab.* Islands of Waigiou and Ceram.

Mr. Wallace attached to the male species this observation: "the claws, soles, and end of the tail nearly white; eats leaves and cocoa-nuts (young)." He calls the male *C. orientalis*.

We have specimens of both sexes in the Museum; a very young and adult female from Waigiou, obtained from M. Verreaux in 1856; and male and female, with two young from the pouch, from Waigiou, and a male from Ceram, from Mr. Wallace, in 1859 and 1860.

In the skull of the female the temporal ridges are separated from one another by a wide flat band.

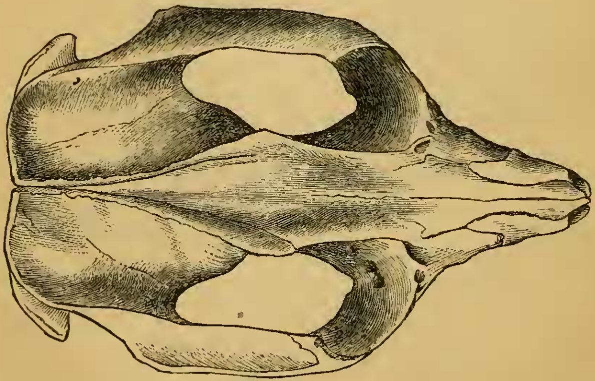
Temminck, and other authors since his work, have described the male of this animal as white, and the female as silver-grey with a black dorsal streak; but we have both sexes of the latter colour. Can the white males be an *albino variety*, and confined to the male sex? We have two full-grown males of that colour, one obtained from Leyden Museum, said to come from Amboyna, and another from M. Verreaux, said to come from New Zealand; they both have the small hinder false grinders.

7. CUSCUS ORNATUS, Gray, P. Z. S. 1860, p. 1, pl. LXXIV. (male).

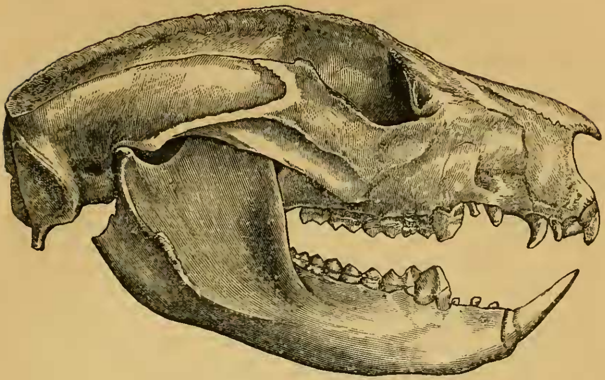
Both sexes grey-brown, grisled, and marked with small white spots and a distinct dorsal streak; the ground-colour of the male is yellowish-red, of the female dark grey-brown.

*Hab.* Ternate and Batchian (*Wallace*).

We have a male and three females in the British Museum, all from Mr. Wallace—a male from Batchian in 1859, two adult and a young female from Ternate, obtained in 1858 and 1859.



Skull of *Cuscus ornatus* (upper surface).



Skull of *Cuscus ornatus* (side view).

In the British Museum there are two young specimens of the genus which I am not able to determine with certainty. They are both of a fulvous-brown colour, and without any streak on the back.

1. Said to come from "Amboyna," and is supposed to be a young *C. orientalis*; the sex is doubtful, but probably a male.

2. The other was sent by Mr. Wallace from Macassar in 1857, and is a young male. I formerly considered it as a variety of *C. celebensis* (P. Z. S. 1858, p. 43); and it is like that species in several particulars; but the want of the dorsal streak is a great peculiarity, which was not so distinctly seen before it was stuffed.

## ON THE OPHIDIANS OF THE PROVINCE OF BAHIA, BRAZIL.

BY DR. OTHO WUCHERER, CORR. MEMB. (Part II.*)

Of the family of *Coronellidæ* several species of *Liophis* are very common in this province—*Liophis cobella, L. Merremii, L. reginæ,* and *L. conirostris.* The last appears to me to occur only in the vicinity of the city of Bahia. In several collections of Ophidians sent to me from different parts of the province, I never found a single specimen, whilst it is rather common in the vicinity of the city of Bahia. It never attains to the same size as the other species. Some specimens of *L. Merremii* show so constantly certain differences from others, that I feel tempted to consider them as belonging to a distinct species, particularly as those differences are by no means referable to the different age of the individuals; however I shall withhold my suggestions until I shall have collected more materials to substantiate them. *Erythrolamprus venustissimus,* of the same family, is not unfrequent. It shares with different other snakes the Portuguese name of *Cobra Coral.*

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* See Annals, vol. viii. p. 179, for Part I.

The species of the genus *Xenodon,* which have been referred to the family of *Natricidæ,* are allied to *Liophis* in many respects. Their dentition is very similar; they may all be considered as fresh-water snakes (some species of *Liophis* are called by the Brazilians *Cobras d'agua*), although they are frequently found in dry places and at a distance from the water. They all live on Batrachians, and have this peculiarity in common with the other snakes of the family of *Natricidæ,* that they do not squeeze their prey to death before swallowing it, nor ever coil themselves around it.

I have noticed only two species of *Xenodon*—*X. rhabdocephalus* and *X. colubrinus.*

In a preliminary list of snakes observed by me, given by Dr. Albert Günther, *X. severus* is mentioned; however, on a repeated examination of the specimens in my possession, I must refer them all to *X. rhabdocephalus* *. This is a very common species in Bahia. Several young examples may be frequently found together. It is very lively and courageous, and, on account of its broad head and rather vicious appearance, much dreaded by the Brazilians, who give it the name of *Surucucú.* In order to distinguish *Lachesis mutus* from it, they call the latter *Surucucú bico de jacca,* from the resemblance of its strongly keeled scales to the prominences on the Jackfruit—the fruit of the *Artocarpus integrifolia.* This *Xenodon* is very voracious. Recently I had a young living specimen of it in the same cage with one of *Liophis conirostris,* and gave them two young *Cystignathi fusci* for their food. The *Xenodon* immediately seized one of the frogs by the snout; but the *Liophis* did not succeed so well with the other frog, and found it easier to seize the *Xenodon's* prey by the hind legs. A struggle commenced, in which the *Xenodon* had better hold of the frog than the *Liophis,* and, the latter being obstinate and not inclined to relinquish its hold, began to encompass its head with its wide jaws. It became evident that the *Liophis* would have to share the fate of its intended victim. As it was the first living specimen of its species I had been able to obtain, I was very anxious to save its life; so I cut the *Xenodon* in two with a knife, and the *Liophis* quickly passed through the anterior segment of the *Xenodon's* body with the frog. The *Liophis* was returned to its cage, when it directly seized hold of the other frog, and swallowed it undisturbed. It had along its head, neck, and anterior part of the body minute wounds from the *Xenodon's* teeth, which bled freely while it was engaged in swallowing the frog; but it has done quite well since, and I hope it may arrive safely at the Gardens of the Society.

It is surprising how broad and flat a *Xenodon rhabdocephalus* makes itself at times, chiefly whilst basking in the sun. This is owing, I suppose, to a peculiar conformation and attachment of its ribs, which I have not yet examined. The species of *Liophis* never make themselves so broad. A *Xenodon* can pass a crevice which is exceedingly small in proportion to the width of its head,—one smaller than that which a *Liophis* with a much thinner body can pass.

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* One specimen of *X. severus* in the Collection of the British Museum is mentioned in the Catalogue as derived from Bahia.

Of the interesting species *Xenodon colubrinus*, so well established and happily named by Dr. Albert Günther, I received several live specimens from Ilhéos. When irritated, it rapidly strikes the ground with its tail—a habit I have also noticed in *Spilotes variabilis*, *S. pœcilostoma*, *S. corais*, and in *Coryphodon pantherinus*. In its habits it resembles also *X. rhabdocephalus*; but in the form of its head it shows great similarity to the members of the next family—that of *Colubridæ*. In this species I first noticed a bright white spot or groove on the tip of each scale. Recently I have become indebted to Dr. A. Günther's kindness for a perusal of Prof. Reinhardt's interesting paper on these curious spots or depressions*. Reinhardt discovered them during his stay in Brazil, about thirteen years ago, in a living specimen of *Philodryas Olfersii*—a snake which has not yet been noticed by me. After his return to Europe he found them in preserved specimens of many other Ophidians, and has tried to vindicate for them the importance of a classifying character, which they undoubtedly possess. Reinhardt mentions that these depressions had been noticed before by Wagler in species of *Xenodon*, by Holbrook in *Coluber alleghaniensis*, and by Günther in West Indian species of *Dromicus*, but that they had been overlooked by other herpetologists. In *Xenodon colubrinus* they are remarkably distinct, clearly perceptible with the naked eye; they are circular, and placed very near the tip of the scales.

The family *Colubridæ* is represented by two genera in this province —*Spilotes* and *Coryphodon*.

*Coryphodon pantherinus* is exceedingly common. The grooves on its scales are double, as in all the other species of this family, with the exception of *Zamenis Dahlii*, Fitz., which, according to Reinhardt, has scales with a single groove. Reinhardt, however, observes that this Ophidian had been classed by Schlegel with the *Psammophidæ*, which have scales provided with a single groove.

Of the genus *Spilotes* I have noticed *S. corais*, *S. pœcilostoma*, and *S. variabilis*.

They are very similar in their habits, very bold; and the most undaunted is perhaps *S. corais*. It is called by the Brazilians "*Papapinto*," from its averred predilection for chickens, of which circumstance I have never been able to satisfy myself. It frequents the neighbourhood of rivers, where it often strikes terror into the black washerwomen occupied at their calling, by approaching and running after them. I have been told strange stories about its creeping on to the beds of sleeping women who nurse, and sucking at their breasts. It may be that, like many other reptiles, it is very fond of milk; and this may account in part for such tales, which have been current in other countries also. *S. corais* has generally seventeen rows of scales; but I have seen several specimens with only fifteen rows. One very large specimen from Caravellas in my possession, which measures 8′, has nineteen rows of scales. The other two species of *Spilotes* are both called "*Cainana*;" the grooves on their scales differ from those of *S. corais* in being larger and oblong or elliptical. I was on the point of referring a specimen of *S. corais*, with fifteen rows of scales, to *Herpetodryas dendrophis*, on account of the slender form of its head; but the presence of the two depressions on each of its scales assisted me in its correct determination. With regard to *S. variabilis*, I must state that the specimens examined by me, which were all adults, had no loreal shield.

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* See p. 255 of our present Number.

The *Dryadidæ* I have met with belong to two genera, *Herpetodryas* and *Philodryas*. *Herpetodryas carinatus* is one of the most common snakes in this province. The Brazilians call it, as well as all the other slender species of snakes, "*Cipo*," which signifies the stem or a stick of a creeping-plant. Before I had read Schlegel's 'Essay,' I referred all the specimens of *Herpetodryas* in which I did not detect any keeled scales to *H. fuscus*, this being the only distinctive character given in Günther's Catalogue. When I found that Schlegel had not admitted *H. fuscus* as a separate species, I submitted all my specimens (several dozens) to a closer examination, and found that there was not a single one in which at least very slight traces of keels were not to be found in some scales; so that I feel inclined to follow Schlegel, and to consider my specimens as belonging to one species. According to Reinhardt, the scales of *Herpetodryas carinatus* are without any groove,—an observation with which I cannot agree, having found grooved scales in all my specimens. In some specimens they were found, indeed, only on a few scales of the neck near the head; others had them on the two middle rows of keeled scales. The occurrence of these grooves in *Herpetodryas*[*] is very interesting, particularly because they are single, and not double as is generally the case in keeled scales. They are placed near to the inner edge, and at the point of junction of the distal with the middle third of the scale. They are proportionately smaller in larger specimens. The largest specimen noticed by me is 5 feet 7 inches long.

*Philodryas viridissimus* is not quite so common as the last species. The largest specimen I have seen measured 4 feet. Reinhardt found two grooves in the scales of this snake. After a careful search, I cannot find more than one groove at the tip of the scales. Some scales on the tail have certainly two grooves, evidently in consequence of the confluence of two scales.

*Philodryas Schottii*.—I obtained a single specimen in a bad state.

Of the family of *Dendrophidæ* I have seen a single specimen of *Ahætulla liocerca*[†]: it must be a very beautiful snake. It is said to be exceedingly lively; and this, with its proportionately long teeth, may be the cause of its being considered dangerous by the Brazilians.

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[*] I have examined several specimens of this species: I was unable to find these grooves in *H. carinatus*; one specimen of *H. fuscus* showed a single groove on a few scales on the neck.—A. G.

[†] I received it from Mr. Christopher Gayleard, whose unceasing kindness in assisting me to collect specimens I am happy to acknowledge.

The family of *Dryophidæ* has two representatives in Bahia, belonging to the genus *Dryophis*—*D. argentea* and *D. acuminata*. The former is very scarce (I have seen only one specimen in Mr. C. M. Föppel's collection), the latter very common.

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## MISCELLANEOUS.

### *On some small Pits with which the Scales of certain* Ophidia *are adorned.* By J. Reinhardt.

It is about twelve years since, during his residence in Brazil, M. Reinhardt observed small whitish and brilliant points scattered over the body of the green snake, common in that country, to which Lichtenstein gave the name of *Coluber Olfersii*, and which Wagler has adopted as the type of his genus *Philodryas*. Careful examination showed M. Reinhardt that each scale of this snake is furnished, close to its posterior extremity, with a small depression or pit, of which the brilliancy is greater than that of the rest of the scale. These impressions cease at a little distance from the point of the tail. They are also wanting in the anterior part of the body, on the two rows of scales nearest to the ventral plates, and even, further back, on three or four ventral rows. At the root of the tail there are not more than six rows of scales furnished with pits; this number soon falls to three, and a few inches further on there are only two.

When the epidermis is carefully removed from some of the scales furnished with pits, and examined with the lens, it is found that no opening exists corresponding with the pits. The epidermis is only very delicate at this point, and as transparent as glass. Nor is any aperture to be found in the pit of the cutis, and consequently there is no canal or cavity leading into the interior of the scale.

M. Reinhardt was naturally led to compare other Ophidia with the *Philodryas* with regard to this peculiarity. Amongst 191 species examined up to this time, he has found pits in 106. The frequency of these little depressions is undoubtedly still greater than might be assumed from the above numbers. In fact, M. Reinhardt has examined comparatively a greater number of species of groups not furnished with pits than of those which are provided with them.

In many species the pits are as large as, or larger than, in *Philodryas*, and then they are easily recognizable by the naked eye. Often, likewise, they are smaller, and cannot well be distinguished except with the lens. Sometimes there is only one upon each scale, sometimes there are two. In the *Ophidia* with smooth scales, the species with one and those with two pits are nearly equal in number. In the *Ophidia* with keeled scales, the pits, when they exist, are almost always two in number on each scale, placed one on each side of the keel. Some species, however, have only one.

The function of the pits is still unknown. They are not connected with any gland, and never constitute a sexual difference. They may